



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/675,569	09/30/2003	William Daniel Bevers	Bevers 4-16-3-6-3/075903-	9976
29391	7590	03/01/2006	EXAMINER	
BEUSSE BROWNLEE WOLTER MORA & MAIRE, P. A. 390 NORTH ORANGE AVENUE SUITE 2500 ORLANDO, FL 32801			KRISHNAMURTHY, RAMESH	
			ART UNIT	PAPER NUMBER
			3753	

DATE MAILED: 03/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Interview Summary	Application No.	Applicant(s)	
	10/675,569	BEVERS ET AL.	
	Examiner	Art Unit	
	Ramesh Krishnamurthy	3753	

All participants (applicant, applicant's representative, PTO personnel):

(1) Ramesh Krishnamurthy. (3) _____
 (2) Joseph Fischer. (4) _____

Date of Interview: 23 February 2006.

Type: a) ☒ Telephonic b) ☐ Video Conference
 c) ☐ Personal [copy given to: 1) ☐ applicant 2) ☐ applicant's representative]

Exhibit shown or demonstration conducted: d) ☐ Yes e) ☒ No.
 If Yes, brief description: _____.

Claim(s) discussed: 1, 8, 14, 18 and 19.

Identification of prior art discussed: Brwon (US 6,119,710).

Agreement with respect to the claims f) ☐ was reached. g) ☐ was not reached. h) ☒ N/A.

Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: See Attachment.

(A fuller description, if necessary, and a copy of the amendments which the examiner agreed would render the claims allowable, if available, must be attached. Also, where no copy of the amendments that would render the claims allowable is available, a summary thereof must be attached.)

THE FORMAL WRITTEN REPLY TO THE LAST OFFICE ACTION MUST INCLUDE THE SUBSTANCE OF THE INTERVIEW. (See MPEP Section 713.04). If a reply to the last Office action has already been filed, APPLICANT IS GIVEN A NON-EXTENDABLE PERIOD OF THE LONGER OF ONE MONTH OR THIRTY DAYS FROM THIS INTERVIEW DATE, OR THE MAILING DATE OF THIS INTERVIEW SUMMARY FORM, WHICHEVER IS LATER, TO FILE A STATEMENT OF THE SUBSTANCE OF THE INTERVIEW. See Summary of Record of Interview requirements on reverse side or on attached sheet.

Examiner Note: You must sign this form unless it is an Attachment to a signed Office action.


 Examiner's signature, if required

Summary of Record of Interview Requirements

Manual of Patent Examining Procedure (MPEP), Section 713.04, Substance of Interview Must be Made of Record

A complete written statement as to the substance of any face-to-face, video conference, or telephone interview with regard to an application must be made of record in the application whether or not an agreement with the examiner was reached at the interview.

Title 37 Code of Federal Regulations (CFR) § 1.133 Interviews

Paragraph (b)

In every instance where reconsideration is requested in view of an interview with an examiner, a complete written statement of the reasons presented at the interview as warranting favorable action must be filed by the applicant. An interview does not remove the necessity for reply to Office action as specified in §§ 1.111, 1.135. (35 U.S.C. 132)

37 CFR §1.2 Business to be transacted in writing.

All business with the Patent or Trademark Office should be transacted in writing. The personal attendance of applicants or their attorneys or agents at the Patent and Trademark Office is unnecessary. The action of the Patent and Trademark Office will be based exclusively on the written record in the Office. No attention will be paid to any alleged oral promise, stipulation, or understanding in relation to which there is disagreement or doubt.

The action of the Patent and Trademark Office cannot be based exclusively on the written record in the Office if that record is itself incomplete through the failure to record the substance of interviews.

It is the responsibility of the applicant or the attorney or agent to make the substance of an interview of record in the application file, unless the examiner indicates he or she will do so. It is the examiner's responsibility to see that such a record is made and to correct material inaccuracies which bear directly on the question of patentability.

Examiners must complete an Interview Summary Form for each interview held where a matter of substance has been discussed during the interview by checking the appropriate boxes and filling in the blanks. Discussions regarding only procedural matters, directed solely to restriction requirements for which interview recordation is otherwise provided for in Section 812.01 of the Manual of Patent Examining Procedure, or pointing out typographical errors or unreadable script in Office actions or the like, are excluded from the interview recordation procedures below. Where the substance of an interview is completely recorded in an Examiners Amendment, no separate Interview Summary Record is required.

The Interview Summary Form shall be given an appropriate Paper No., placed in the right hand portion of the file, and listed on the "Contents" section of the file wrapper. In a personal interview, a duplicate of the Form is given to the applicant (or attorney or agent) at the conclusion of the interview. In the case of a telephone or video-conference interview, the copy is mailed to the applicant's correspondence address either with or prior to the next official communication. If additional correspondence from the examiner is not likely before an allowance or if other circumstances dictate, the Form should be mailed promptly after the interview rather than with the next official communication.

The Form provides for recordation of the following information:

- Application Number (Series Code and Serial Number)
- Name of applicant
- Name of examiner
- Date of interview
- Type of interview (telephonic, video-conference, or personal)
- Name of participant(s) (applicant, attorney or agent, examiner, other PTO personnel, etc.)
- An indication whether or not an exhibit was shown or a demonstration conducted
- An identification of the specific prior art discussed
- An indication whether an agreement was reached and if so, a description of the general nature of the agreement (may be by attachment of a copy of amendments or claims agreed as being allowable). Note: Agreement as to allowability is tentative and does not restrict further action by the examiner to the contrary.
- The signature of the examiner who conducted the interview (if Form is not an attachment to a signed Office action)

It is desirable that the examiner orally remind the applicant of his or her obligation to record the substance of the interview of each case. It should be noted, however, that the Interview Summary Form will not normally be considered a complete and proper recordation of the interview unless it includes, or is supplemented by the applicant or the examiner to include, all of the applicable items required below concerning the substance of the interview.

A complete and proper recordation of the substance of any interview should include at least the following applicable items:

- 1) A brief description of the nature of any exhibit shown or any demonstration conducted,
- 2) an identification of the claims discussed,
- 3) an identification of the specific prior art discussed,
- 4) an identification of the principal proposed amendments of a substantive nature discussed, unless these are already described on the Interview Summary Form completed by the Examiner,
- 5) a brief identification of the general thrust of the principal arguments presented to the examiner,
(The identification of arguments need not be lengthy or elaborate. A verbatim or highly detailed description of the arguments is not required. The identification of the arguments is sufficient if the general nature or thrust of the principal arguments made to the examiner can be understood in the context of the application file. Of course, the applicant may desire to emphasize and fully describe those arguments which he or she feels were or might be persuasive to the examiner.)
- 6) a general indication of any other pertinent matters discussed, and
- 7) if appropriate, the general results or outcome of the interview unless already described in the Interview Summary Form completed by the examiner.

Examiners are expected to carefully review the applicant's record of the substance of an interview. If the record is not complete and accurate, the examiner will give the applicant an extendable one month time period to correct the record.

Examiner to Check for Accuracy

If the claims are allowable for other reasons of record, the examiner should send a letter setting forth the examiner's version of the statement attributed to him or her. If the record is complete and accurate, the examiner should place the indication, "Interview Record OK" on the paper recording the substance of the interview along with the date and the examiner's initials.

Interview Summary – Attachment

A copy of an outline of applicant's arguments together with proposed amendments to claims as faxed in by attorney Fischer, is attached hereto. As for the proposed amendment to the claims, examiner informed attorney Fischer that a decision concerning their entry would only be made when such an amendment is formally filed as part of a response to the last office action. In regard to the applied reference of Brown, attorney argued that the limitation "for measurement of said gas flow through said bypass loop" distinguishes the instant claims from the Brown reference, since in Brown the gas is stationary in the bypass loop. Examiner expressed his disagreement with this interpretation of Brown and noted that the limitation in question is couched in functional language and in order to meet the limitation, Brown need only be capable of such a function and that it is capable of the recited function. Attorney agreed to file a formal response in due course.

BEUSSE WOLTER SANKS MORA & MAIRE, P.A.

JAMES H. BEUSSE
 DANIEL N. BRODERSEN
 JOHN L. DEANGELIS, JR.
 DAVID G. MAIRE
 CHRISTINE Q. MCLEOD
 ENRIQUE J. MORA
 NORMAN A. NIXON
 FERDINAND M. ROMANO
 TERRY M. SANKS
 W. DAVID SARTOR
 TIMOTHY H. VAN DYKE
 ROBERT L. WOLTER

390 N. ORANGE AVENUE, SUITE 2500
 ORLANDO, FLORIDA 32801
 TELEPHONE (407) 926-7700
 FACSIMILE (407) 926-7720
 WWW.IPLAWFL.COM

OF COUNSEL
 JACKSON O. BROWNLEE
 JOSEPH FISCHER

WRITER'S DIRECT DIAL/EMAIL
 (407) 926-7727
 JFISCHER@IPLAWFL.COM

TO : Examiner Ramesh Krishnamurthy
 COMPANY : USPTO
 FAX No. : 1-571-273-4914
 No of PAGES : 4 (including cover sheet)
 FROM : Joseph Fischer
 DATE : February 22, 2006
 RE : Serial Number 10/675,569; Filed 09/30/2003
 ATTY. DOCKET NO: Bevers 4-16-3-6-3/075903-243

VIA FACSIMILE ONLY

Dear Examiner Krishnamurthy:

We spoke yesterday about a teleconference, and you requested that I send a summary of what I planned to discuss. Attached please find the claim set of the 10/25/2005 Response/Amendment, with claims 1, 8, 14, 18, and 19 additionally modified with proposed amendment of one phrase in each claim. Please note that older amendments are still shown for some of these claims.

In your 01/10/2006 Final Office action, on page 4 at the bottom you state, "Applicant is arguing that Brown requires a discontinuous flow through the bypass line where as the present invention does not. However, the claims do not recite that flow through the bypass loop is continuous, rendering the argument moot."

Two points about the quoted passage are:

1. Applicant's claims as originally presented are believed to distinguish from Brown, for example by stating in claim 1 "*a flow detector for measurement of a gas flow flowing through said bypass loop*" (underline emphasis added). It is believed that an interpretation of such claim language distinguishes from Brown, in that *when* the Brown device samples a gas for flow measurement, that sample of gas is not properly stated to be flowing *through* the bypass loop.
2. Although the use of the term "discontinuous" as it was applied to Brown is accurate, the use of the term "continuous" as it applied to the present invention, regarding flow through the bypass loop, may be viewed to be misleading. The flow through the bypass loop is flowing during measurement of that flow by the

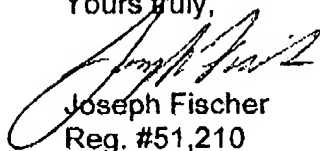
Examiner Krishnamurthy
February 22, 2006
Page 2

flow detector in that bypass loop, but is not "continuous" in a general sense because once the calibration measurement is completed, the flow is directed back to a main line to the end use for the gas. Thus the issue is not precisely whether the claims "recite that flow through the bypass loop is continuous."

Based on the above, and further consideration, including the realization that a more clear distinction may be made by stating flow status at the flow detector rather than of the bypass line, Applicant proposes the claim amendments in the attached sheets. These are believed to better clarify the distinction from Brown and similar technologies.

Although after Final, consideration and allowance of such claims is respectfully requested. These amendments were not previously made because Applicant believed the claims as previously presented adequately and clearly distinguished the invention. Although this belief remains, Applicant now perceives a more clear manner to distinguish and specify the invention. This more clear manner advantageously resolves what appears to be mis-application of the term "continuous" to the present invention in the Final Office action.

Yours truly,



Joseph Fischer
Reg. #51,210

Application No. 10/675,569
Amendment dated 10/25/2005
~~Reply to Office Action of 7/25/2005~~

Amendments to the claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (original//PROPOSED AMENDMENT) A system to measure a gas flow rate for a gas provided by a mass flow controller to a process chamber via a process line, comprising:

- a. said mass flow controller;
- b. a vent line fluidly connecting to said process line between said mass flow controller and said process chamber, said vent line comprising

- i. a bypass loop having an inlet junction and a return junction fluidly connecting said bypass loop to said vent line, and comprising

- a. a flow detector for measurement of a gas flow while said gas flow is flowing through said flow detector ~~bypass loop~~;

- b. a first bypass control valve between said inlet junction and said flow detector;

- ii. a main vent line shut-off valve between said inlet junction and said return junction; and

- c. a computational control device that receives data signals from said flow detector;

whereby said gas flow directed through said bypass loop provides a measurement of said mass flow controller's gas flow rate which provides information for quantitation or for calibration of said mass flow controller.

2. (currently amended) The system of claim 1, wherein said flow detector is a digital mass flow controller.

3. (original) The system of claim 1, wherein said bypass loop additionally comprises a second bypass control valve between said flow detector and said return junction.

Application No. 10/675,569

Amendment dated 10/25/2005

Reply to Office Action of 7/26/2006 /

4. (original) The system of claim 1, additionally comprising a process line shut-off valve positioned between a junction between said vent line and said process chamber, wherein closing said process line shut-off valve directs all gas from said mass flow controller to said vent line.

5. (original) The system of claim 1, additionally comprising a manifold fluidly connecting two or more mass flow controllers to said vent line, whereby valving control of the manifold provides gas from any one of said two or more mass flow controllers to said vent line for said measurement.

6. (original) The system of claim 1, additionally comprising a process line shut-off valve positioned between a junction between said vent line and said process chamber, wherein closing said process line shut-off valve directs all gas from said mass flow controller to said vent line, and wherein said bypass loop additionally comprises a second bypass control valve between said flow detector and said return junction

7. (original) The system of claim 1, additionally comprising a back pressure or a back vacuum compensating system to provide a back pressure or a back vacuum to the flow detector in the bypass loop that is representative of the back pressure or back vacuum existing the said process chamber during use of said gas.

8. (original//PROPOSED AMENDMENT) A system to measure a gas flow rate for a gas provided by a mass flow controller to a process chamber via a process line, comprising: said mass flow controller;

a bypass loop fluidly connecting to said process line between said mass flow controller and said process chamber, said bypass loop comprising an inlet junction and a return junction fluidly connecting said bypass loop to said process line, and comprising

[a flow detector for measurement of a gas flow while said gas flow is flowing through said flow detector ~~bypass-loop~~;

Application No. 10/675,569
Amendment dated 10/25/2005
Reply to Office Action of 7/25/2005 /

a first bypass control valve between said inlet junction and said flow detector;
a process line shut-off valve between said inlet junction and said return junction; and
a computational control device that receives data signals from said flow detector;
whereby said gas flow directed through said bypass loop provides a measurement of
said mass flow controller's gas flow rate which provides information for quantitation or
for calibration of said mass flow controller.

9. (currently amended) The system of claim 8, wherein said flow detector is a ~~digital~~
mass flow controller.

10. (original) The system of claim 8, wherein said bypass loop additionally comprises a
second bypass control valve between said flow detector and said return junction.

11. (original) The system of claim 8, wherein said bypass loop additionally comprises a
pressure release valve between said flow detector and said return junction.

12. (original) The system of claim 8, additionally comprising a first manifold fluidly
connecting two or more process lines to said process chamber, whereby valving control
of the manifold provides gas from any one of said two or more mass flow controllers to
said bypass loop for said measurement.

13. (original) The system of claim 8, additionally comprising a second manifold fluidly
connecting two or more process lines to said process chamber, whereby valving control
of the manifold returns gas from said bypass loop to said process chamber.

14. (currently amended//**PROPOSED AMENDMENT IN BOLD**) A system to measure a
gas flow rate for a gas provided by a dedicated means for metering a gas to a process
chamber via a process line, comprising:
said dedicated means for metering;

Application No. 10/675,569
Amendment dated 10/25/2005
Reply to Office Action of 7/25/2005

a line fluidly connecting to said process line between said dedicated means for metering
~~mass-flow-controller~~ and said process chamber, said line beginning at an inlet junction
and comprising

a first means to control said gas flow, located between said inlet junction and ~~[[said]]a~~
means for measuring; and

[[a]]said means for measuring a gas flow **while said gas flow is** flowing through said
means for measuring a gas flow-line;

a means to direct gas flow through either the process line or the line fluidly connecting
to said process line in "b" above; and

a computational control device that receives data signals from said means for
measuring a gas flow; whereby said gas flow directed through said line fluidly
connecting to said process line in "b" above provides a measurement of said flow rate of
gas through said dedicated means for metering which provides information for
quantitation or for calibration of said dedicated means for metering.

15. (currently amended) The system of claim 14, wherein said measurement is repeated
over time and is used to quantify the gas flow passing through said dedicated means for
metering~~measuring~~.

16. (original) The system of claim 14, additionally comprising at least one additional
dedicated means for metering at least one additional gas.

17. (original) The system of claim 16, wherein a comparison between set and measured
flow rates of two or more of said dedicated means for metering, by said means for
measuring a gas flow flowing through said line, provides a correction factor for said
means for measuring a gas flow flowing through said line.

18. (currently amended//**PROPOSED AMENDMENT IN BOLD**) A method to calibrate a
flow of gas to a process chamber that is set by a mass flow controller, comprising the
steps of: setting the mass flow controller to a specific gas flow rate; adjusting valves to

Application No. 10/675,569
 Amendment dated 10/25/2005
Reply to Office Action of 7/25/2006

direct a calibrating gas flow from said mass flow controller through a vent line and into a bypass loop in fluid communication with said vent line by means of an inlet junction and a return junction, said bypass loop also comprising a flow detector for measurement of said calibrating gas flow while said calibrating gas flow is flowing through said flow detector~~bypass-loop~~; measuring a bypass loop gas flow rate of said calibrating gas flow with said flow detector; comparing said bypass loop gas flow rate to said desired gas flow rate; and calculating a relationship between said bypass loop gas flow rate and said desired gas flow rate, whereby said relationship provides information to quantitate or to calibrate said mass flow controller, or to replace or to repair said mass flow controller.

19. (original//PROPOSED AMENDMENT) A method to calibrate a flow of gas to a process chamber that is set by a mass flow controller, comprising the steps of: setting the mass flow controller to a specific gas flow rate; adjusting valves to direct a calibrating gas flow from said mass flow controller into a bypass loop in fluid communication with a process line by means of an inlet junction and a return junction, said bypass loop also comprising a flow detector for measurement of said calibrating gas flow while said calibrating gas flow is flowing through said flow detector~~bypass-loop~~; measuring a bypass loop gas flow rate of said calibrating gas flow with said flow detector; comparing said bypass loop gas flow rate to said desired gas flow rate; and calculating a relationship between said bypass loop gas flow rate and said desired gas flow rate wherein said process line is in fluid communication with said process chamber and with said mass flow controller, and whereby said relationship provides information to quantitate or to calibrate said mass flow controller, or to replace or to repair said mass flow controller.